

November 20, 2003
Ministry of Education, Culture, Sports,
Science and Technology

The Progress of U.S.-Japan Comparative Research on Mathematics and Science Education

○Background

At the plenary session of CULCON XX in May, 2001, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) proposed to study education in mathematics and science at primary and secondary school level of both countries, and the Department of Education expressed its willingness to facilitate such a study.

○ Study Plan of Japan Side

Based on the foregoing background, the plan of study program, entitled, “U.S.-Japan Comparative Research on Mathematics and Science Education” was established mainly by National Institute for Educational Policy Research, in which such study would be conducted from the fiscal 2002 (April 2002 – March 2003) for the period of three years. In July last year, the program was proposed to the Department of Education and the National Science Foundation (NSF) and the assistance was requested to these organizations.

(Study Outline of Japan Side)

Commencing on fiscal 2002, and for the period of 3 years, the study will be conducted on mathematics, science and technology educations in Japan and the United States by grasping the following situations from the points of comparative educational studies, define the strengths and

limitations of both countries based on such field research, and lead to the establishment of a new model on mathematics and science educations:

- ① Development project of progressive instruction methods or advanced educational materials, such as digital content materials.
- ② Advanced educational measures or instruction methods for highly gifted students.
- ③ Approaches to local communities and parents from schools through museums and academic societies.

(Study Implementation Structure)

For the purpose of conducting this study, “Study Group for U.S-Japan Comparative Research on Mathematics and Science Education (Japan Side)” was established, comprising of officials and researchers from MEXT, National Institute for Educational Policy Research, Mitsubishi Research Institute and some universities. Study sections in the Group (32 members) consist of General Section, Instruction Method and Educational Materials Section, Special Measures Section and School/Community Section for the special fields on Science Education, Mathematics Education and Technical Education.

○ Progress of Study

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| July, 2002 | “Study Group for U.S-Japan Comparative Research on Mathematics and Science Education (Japan Side)” was established. |
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| December, 2002 | Preliminary Meeting for the First Year |
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| January – February, 2003 | Interview Research |
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February, 2003 First Plenary Meeting for the First Year
March, 2003 Visiting Research in the United States for the First Year

June, 2003 First Plenary Meeting for the Second Year

(Joint Japan-US Workshop)

- Dates: March 17 – 19, 2003
- Location: San Francisco
- Participants from Japan: Hiroshi Nagano, Director General for International Affairs (MEXT), Eizo Nagasaki, Curriculum Director (National Institute for Educational Policy Research) and other Japanese officials and specialists.
- Summary: Present situations were described by both sides and the following three issues were adopted as main study themes to be explored together by Japan and the United States in cooperation.
 - ① Development of new manner of using museums.
 - ② Instruction in mathematics and science education as it ought to be (improvement of education quality, development of educationally effective website, etc.)
 - ③ Development of creativity as it ought to be (how to educate gifted students).

○ Future Schedule

The second visiting research will be conducted in the United States within the current fiscal year, collected documents will be classified and organized, and the written report will be produced.